

# SANJAY. R

Gen AI Engineer | ML Engineer | | Deep Learning Engineer

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AI Engineer with expertise in machine learning. Successfully implemented advanced object detection algorithms for SAR satellite images. Skilled in cross-functional collaboration and adept at developing and deploying machine learning models. Ready to contribute technical leadership and innovation to Company's mission.

## Education

**B.Tech (Artificial Intelligence and Machine Learning) (2020-2024)**

**HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY CGPA - 8.0**

**Related course work:** Machine Learning, Deep Learning Neural Networks, Supervised Learning, Satellite Image Processing, Data Analytics, and Computer vision, NLP

**Hurricane Prediction Using (AI & ML):** AI and ML algorithms can analyse large amounts of data from multiple sources, including satellite images, weather stations, and ocean buoys, to make accurate predictions about the path, intensity, and impact of hurricanes. **(Research/Final Year Project)**

**AWS (AI & ML Scholarship) - Nanodegree**

**AI Programming with Python**

**(6/2024 - 10/2024)**

**Project 1:** Used Pre-trained Image Classifier to identify Dog Breeds.

**Project 2:** Image Classifier model to predict new image using the trained model in flower dataset.

## Hard Skills

- **Programming Languages:** Python, R-(Basics), MySQL, HTML, CSS
- **Tools & Platform :** IBM Watson, Amazon(AWS), Microsoft Azure, SPSS, Google Cloud, Ollama
- **Libraries & Frameworks:** Polars | Pandas | NumPy | Scikit-learn | NLP | TensorFlow | PyTorch | YOLO | PyQt | Keras | OpenCV | Generative AI | CUDA - CuBLAS, CuDNN | Langchain | LLM | SDXL | Hugging Face Transformers
- **OS (Operating System)-** Linux , Mac - OS, Windows
- **Python web framework -** Flask-(Basics), StreamLit, Taipy Designer
- **Skills - Team Work, Problem Solving, Deliver Hight-Quality Code, Strong Communication, Wild Photography.**

## Experience

- ❖ **Renault Nissan Technology Business Centre - R&D (NISSAN) (6/2024-Present)**  
**(Gen AI Engineer )**
  - LLM Fine-tuning.
  - Integrating Gen AI into systems.
  - Research and develop new technologies.
  - CAN BUS Protocol
- ❖ **DRDO - Centre for Artificial Intelligence and Robotics (7/2023 - 1/2024)**  
**(Project Trainee) Gov of India, Bengaluru, Karnataka**
  - Work closely with AI Scientist.
  - Developed and implemented an advanced algorithm for object detection in SAR satellite images, resulting in a significant 15% improvement in accuracy while reducing false positives by 20%.
  - Data Annotation / Labelling.

- Creating Plugins for QGIS.
- Integration of algorithm with HITACI Tool.
- ❖ **Machine Learning Engineer | Technocolabs Software Inc.** (5/2022 - 10/2022)  
**Indore, Madhya Pradesh**
  - Worked with cross-functional teams.
  - Developed and deployed a machine learning model to predict the likelihood of a company being acquired, with 91.5% accuracy
  - Worked on integrations of ML models with other systems.
- ❖ **Community Volunteer | Climate Change AI** (1/2022 – Present)
  - Working on a research project focused on Hurricane Prediction using Artificial Intelligence and Machine Learning.
  - Collaborate with some of the brightest minds in the field and contribute to our shared mission of using AI for social good.

## Patent

- **LEVERAGING SATELLITE IMAGERY AND MACHINE LEARNING FOR VEGETATION MANAGEMENT IN POWER TRANSMISSION LINES.**
- **SOUND BITE HEARING SYSTEM FOR BLIND AND DEAF PEOPLE.**
- **HURRICANE PREDICTION USING (AI & ML).**

## Awards / Hackathon

- ❖ **Amazon ML Challenge (2024)**
  - Secured 205 place/5000 place
  - Goal is to create a machine learning model that extracts entity values from images. This capability is crucial in fields like healthcare, e-commerce, and content moderation, where precise product information is vital.
- ❖ **NIRAL THIRUVIZHA- HACKATHON (2024)- Leveraging Satellite Imagery and Machine Learning for Vegetation Management in Power Transmission Lines – ( 10,000 ) GRANT**

## Specialization / Certification

- **AWS – Cloud Practitioner ( Grade – C )** [Certificate Link](#)
- **Supervised Machine Learning: Regression and Classification** by DeepLearning.AI and Stanford University, offered through Coursera. [Certificate Link](#)
- **Foundation Course on Generative AI – Microsoft** [Certificate Link](#)
- **Social Networks – NPTEL Certification** [Certificate Link](#)

## Projects

- **OBJECT DETECTION IN SAR SATELLITE IMAGES USING DEEP LEARNING**
- **LEVERAGING SATELLITE IMAGERY AND MACHINE LEARNING FOR VEGETATION MANAGEMENT IN POWER TRANSMISSION LINES**
- **HURRICANE PREDICTION USING (AI&ML)**
- **ATS TRACKING LLM PROJECT WITH GOOGLE GEMINI PRO**
- **PREDICTING STARTUP'S ACQUISITION STATUS**
- **LUMIERE AI ASSISTANCE USING CHATGPT API KEY**
- **DISEASES DETECTION SYSTEM FOR LIVESTOCK**
- **SOUND BITE HEARING SYSTEM FOR BLIND AND DEAF PEOPLE (PATENT REGISTRATION)**

## Publications

- **Traditional Database vs. Vector Database: Key Differences and Which One to Choose for Your Application (@Medium)**

## Languages

- ENGLISH
- MALAYALAM
- TAMIL